

TRG Science Pacing Guide			
Grade: 6th			
Trimester 1			
September	October	November	Tri 1 Overview
SCIENTIFIC INQUIRY PROCESS S.IP.06.11 S.IP.06.12 S.IP.06.13 S.IP.06.14 S.IP.06.15 S.IP.06.16	ENERGY P.EN.M.1 KINETIC P.EN.06.11 P.EN.06.12 P.CM.M.1 CHANGES IN ATOMS P.CM.06.11 P.CM.06.12 P.EN.M.3 WAVES P.EN.07.31 P.EN.07.33	ENERGY TRANSFER P.EN.M.4 P.EN.06.41 P.EN.06.42 SOLAR ENERGY EFFECTS P.EN.M.6 P.EN.07.61 P.EN.07.62	
Individual School Improvement Additional Standards			
Individual Classroom Intervention Standards			
Trimester 2			
December	January	February	Tri 2 Overview
SOLID EARTH/SYSTEMS E.ES.M.1 SOLAR ENERGY	WEATHER AND CLIMATE E.ES.M.7 E.ES.07.71	WATER CYCLE E.ES.M.8 E.ES.07.81 E.ES.07.82	

E.ES.07.11 E.ES.07.12 E.ES.07.13	E.ES.07.73 E.ES.07.74	FLUID EARTH E.FE.M.1 ATMOSPHERE E.FE.07.11 E.FE.07.12	
Individual School Improvement Additional Standards			
Individual Classroom Intervention Standards			
Trimester 3 (Application)			
March	April	May	June
HUMAN CONSEQUENCE E.ES.M.4 E.ES.07.41 E.ES.07.42 REFLECTION AND SOCIAL IMPLICATIONS S.RS.M.1 S.RS.06.11 S.RS.06.12 S.RS.06.13 S.RS.06.14 S.RS.06.15 S.RS.06.16 S.RS.06.18 S.RS.06.19	ORGANIZATION OF LIVING THINGS CELL FUNCTION L.OL.M.2 L.OL.07.21 L.OL.07.22 L.OL.07.23 L.OL.07.24	CELL GROWTH AND DEVELOPMENT L.OL.M.3 L.OL.07.31 L.OL.07.32 HEREDITY L.HE.M.2 REPRODUCTION L.HE.07.21 L.HE.07.22	ECOSYSTEMS L.EC.M.4 L.EC.06.42 ANALYSIS AND COMMUNICATION S.IA.M.1 S.IA.06.11 S.IA.06.12 S.IA.06.13 S.IA.06.14 S.IA.06.15

Individual School Improvement Additional Standards			
Individual Classroom Intervention Standards			

GRADE: 6	SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: P.EN.M.1 KINETIC AND POTENTIAL ENERGY	Standard: P.EN.o6.11 Identify kinetic or potential energy in everyday situations (for example: stretched rubber band, objects in motion, ball on a hill, food energy).		
	P.EN.o6.12 Demonstrate the transformation between potential and kinetic energy in simple mechanical systems (for example: roller coasters, pendulums).		
	Unpacked Standard: P.EN.o6.11 Students know what energy is and that it cannot be created or destroyed (Law of Conservation of Energy). Students know that energy presents itself in different forms. Kinetic energy is the energy of motion. Potential energy is energy due to the relative position of an object, and can be gravitational, elastic, and chemical. P.EN.o6.12 Students know that energy can transfer from one form to another.		
	Board Objective: I can compare and contrast potential and kinetic energy. I can identify kinetic and potential energy in everyday situations.		

	I can demonstrate how energy transfers from one form to another.		
NEXT GEN CODE: 6-PS3-4.	Next Gen Standard: 6-PS3-4. Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample. ACT Alignment: Kinetic and Potential Energy		
ASSESSMENTS:	CONCEPT NOTES:		LESSON STRATEGIES:
<p>P.EN.06.11 Create a Venn diagram to compare and contrast kinetic and potential energy. Use real objects found in the classroom to demonstrate kinetic and potential energy.</p> <p>P.EN.06.12 Guide students to look at real life mechanical systems either within the school or in photographs. Ask students to identify where the potential and kinetic energy can be observed and where the energy transfer occurs. Have students diagram a mechanical system, labeling kinetic and potential energy and energy transfer. Give students materials and have them design a ramp, roller coaster, etc. that will show potential and kinetic energy of a marble.</p>	<p>BASIC CONCEPT: HTTP://WWW.ENERGYEDUCATION.TX.GOV/ENERGY/SECTION_1/TO PICS/WHAT_IS_ENERGY/INDEX.HTML</p> <p>PS3.B: Conservation of Energy and Energy Transfer</p> <ul style="list-style-type: none"> When the motion energy of an object changes, there is inevitably some other change in energy at the same time. (MS-PS3-5) Energy is spontaneously transferred out of hotter regions or objects and into colder ones. (MS-PS3-3) 		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Design and conduct scientific investigations. Communicate and defend findings of observations and investigations using evidence.
RESOURCES:	VOCABULARY:		
<p>KINETIC AND POTENTIAL ENERGY SONG: HTTP://WWW.YOUTUBE.COM/WATCH?V=VL4G7T5GW1M</p> <p>POWERPOINT: HTTP://WWW.TEACHERSPAYTEACHERS.COM/PRODUCT/POWERPOINT-KINETIC-AND-POTENTIAL-ENERGY-442031</p>	ENERGY, KINETIC, POTENTIAL, LAW OF CONSERVATION OF ENERGY, TRANSFER, MECHANICAL SYSTEM		
ESSENTIAL QUESTIONS:	EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)		
What is energy? What is the difference between kinetic and potential energy? How is energy transferred?	<p>Examples of experiments could include</p> <ul style="list-style-type: none"> Ball Drop (https://www.asee.org/conferences-and-events/conferences/k-12-workshop/2012/Ball_Drop_activity.pdf) 		

- | | |
|--|---|
| | <ul style="list-style-type: none">• Create a Paper Plate Marble Track
(http://frugalfun4boys.com/2012/09/05/paper-plate-marble-track/)• Create and test ramps
(http://inspirationlaboratories.com/kinetic-energy-experiments-and-activities/)• Comparing final water temperatures after different masses of ice melted in the same volume of water with the same initial temperature, the temperature change of samples of different materials with the same mass as they cool or heat in the environment, or the same material with different masses when a specific amount of energy is added. |
|--|---|

GRADE: 6		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: P.EN.M.4 ENERGY TRANSFER	Standard: P.EN.o6.41 Explain how different forms of energy can be transferred from one place to another by radiation, conduction, or convection.			
	P.EN.o6.42 Illustrate how energy can be transferred while no energy is lost or gained in the transfer.			
	<p>Unpacked Standard: P.EN.o6.41 Students know what energy is and that it cannot be created or destroyed (Law of Conservation of Energy). Students know the definitions of radiation, conduction, and convection and can explain how they can work separately or together in an energy transfer.</p> <p>P.EN.o6.42 Students know the Law of Conservation of Energy (that energy cannot be created or destroyed, only transferred). They are able to analyze an energy system and describe the transfer of energy.</p>			
NEXT GEN CODE: 6-PS3-3. 6-PS3-5.	Board Objective: I can define radiation, conduction, and convection. I can explain how energy is transferred. I can analyze a system and describe the transfer of energy.			
	Next Gen Standard: 6-PS3-3. Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.			
	6-PS3-5. Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
P.EN.o6.41 Students create a foldable showing understanding of radiation, conduction, and convection. Teacher demonstrates energy transfer using a hot plate or microwave and a beaker of water, students record observations during demonstration and write a conclusion paragraph. P.EN.o6.42 Students create a poster or a song showing understanding of the Law of Conservation of Energy.		Basic Concept: http://www.physics4kids.com/files/thermo_transfer.html Video Notes: http://www.youtube.com/watch?v=Atnjo7dD_bA PS3.A: Definitions of Energy <ul style="list-style-type: none"> Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of 		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (stop watches, thermometer) appropriate to scientific investigations. Design and conduct scientific investigations. Construct charts and graphs from data and observations. Identify patterns in data.

	<p>matter present. (MS-PS3-3),(MS-PS3-4)</p> <p>PS3.B: Conservation of Energy and Energy Transfer</p> <ul style="list-style-type: none"> When the motion energy of an object changes, there is inevitably some other change in energy at the same time. (MS-PS3-5) The amount of energy transfer needed to change the temperature of a matter sample by a given amount depends on the nature of the matter, the size of the sample, and the environment. (MS-PS3-4) Energy is spontaneously transferred out of hotter regions or objects and into colder ones. (MS-PS3-3) 	<ul style="list-style-type: none"> Communicate and defend findings of observations and investigations using evidence.
RESOURCES:	VOCABULARY:	
<p>Basic Concept:</p> <p>http://www.teachengineering.org/view_activity.php?url=collection/cub/_activities/cub_solar/cub_solar_lesson02_activity1.xml</p> <p>Bill Nye Video: http://www.youtube.com/watch?v=f1eAOygDP5s</p>	<p>ENERGY, LAW OF CONSERVATION OF ENERGY, RADIATION, CONDUCTION, CONVECTION, TRANSFER, SYSTEM</p>	
ESSENTIAL QUESTIONS:	EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	
<p>What are radiation, conduction, and convection? How is energy transferred? Why does the amount of energy stay the same even though the energy is in a different form?</p>	<ul style="list-style-type: none"> POPCORN LAB: HTTP://WWW.TEACHERSPAYTEACHERS.COM/PRODUCT/CONDUCTION-CONVECTION-RADIATION-POPCORN-LAB-29107 BALLOON IN A CANDLE FLAME DEMONSTRATION: HTTP://WWW.YOUTUBE.COM/WATCH?V=ZIH8_BQOLS0 COLOR CONVECTION EXPERIMENT: HTTP://WWW.PRH.NOAA.GOV/HNL/KIDS/ACTIVITIES.PHP#CONVECTION ENGINEERING COOLING DEVICES: HTTP://WWW.TEACHENGINEERING.ORG/VIEW_ACTIVITY.PHP?URL=COLLECTION/DUK/_ACTIVITIES/DUK_HEATTRANSFER_SMARY_ACT/DUK_HEATTRANSFER_SMARY_ACT.XML 	

GRADE: 6		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: P.CM.M.1 CHANGES IN STATE	Standard: P.CM.o6.11 Describe and illustrate changes in state, in terms of the arrangement and relative motion of the atoms or molecules.			
	P.CM.o6.12 Explain how mass is conserved as a substance changes from state to state in a closed system.			
	Unpacked Standard: P.CM.o6.11 Students know that there are three main states of matter- gas, liquid, and solid. Changes in state occur due to changes in temperature of the substance. Atoms and molecules in a substance move, and the motion is determined by the temperature. Hotter particles move faster, while colder particles move slower. Students know that there is a freezing point and boiling point for substances, and that the temperature must pass these points in order for a change in state to occur. P.CM.o6.12 Students know that although matter can change state, the amount of mass does not change. Matter can be rearranged, but the amount of matter will stay the same. Students know that there are mathematical formulas used to prove conservation of mass, although they are not yet taught at this grade level.			
NEXT GEN CODE: MS-PS1-4. MS-PS1-5.	Board Objective: I can explain the difference between a solid, liquid, and gas. I can describe the motion of particles in a solid, liquid and gas. I can demonstrate how temperature affects the state of matter. I can define the terms freezing, melting, condensation, evaporation, sublimation, and deposition when applied to states of matter. I can explain the Law of Conservation of Mass.			
	Next Gen Standard: MS-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.			
	MS-PS1-5. Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
P.CM.o6.11 Students create and label a diagram to show understanding of vocabulary terms related to states of matter. Students participate in a lab activity in which they measure the temperature of substances in different states of matter. Teacher leads a role		Basic Concept: http://www.chem4kids.com/files/matter_intro.html Table Format Notes: http://idahoptv.org/dialogue4kids/season7/matter/facts.cfm		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (stop watches, thermometer) appropriate to scientific

<p>play in which students act out the motion of particles during changes in states of matter.</p> <p>P.CM.o6.12 Teacher Demonstration: Teacher demonstrates Law of Conservation of Mass through a lab activity. Students describe what is happening during each step of the procedure.</p>	<p>PS1.A: Structure and Properties of Matter</p> <ul style="list-style-type: none"> Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. (MS-PS1-2) <i>(Note: This Disciplinary Core Idea is also addressed by MS-PS1-3.)</i> 	<p>investigations.</p> <ul style="list-style-type: none"> Design and conduct scientific investigations. Construct charts and graphs from data and observations. Identify patterns in data. Communicate and defend findings of observations and investigations using evidence. Draw conclusions from sets of data from multiple trials of a scientific investigation.
<p>RESOURCES:</p>	<p>VOCABULARY:</p>	
<ul style="list-style-type: none"> States of Matter Infographic: http://www.kidsdiscover.com/infographics/infographic-states-of-matter-for-kids/ States of Matter Printables: http://fivejs.com/changes-states-matter-free-printable-worksheets-solid-liquid-gas-plasma/ Conservation of Mass Demonstration: http://www.planetseed.com/faq/buoyancy/when-floating-ice-melts-does-water-level-rise Conservation of Mass Video: http://www.brainpop.com/science/matterandchemistry/conservationofmass/preview.weml 	<p>SOLID, LIQUID, GAS, PARTICLE, BOILING POINT, FREEZING POINT, CONDENSATION, EVAPORATION, SUBLIMATION, MELTING, FREEZING, DEPOSITION</p>	
<p>ESSENTIAL QUESTIONS:</p>	<p>EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)</p>	
<p>What are the main states of matter? How does matter change from one state to another? How do particles move in each state of matter? Why does the amount of mass stay the same even though the state of matter is in a different form?</p>	<ul style="list-style-type: none"> States of Matter Lab Activity: http://www.teacherspayteachers.com/Product/Exploring-the-States-of-Matter-Lab-514066 Conservation of Mass Lab: http://www.learner.org/courses/essential/physicalsci/session4/classroom2.html 	

GRADE: 6		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: P.EN.M.3 WAVES AND ENERGY	<p>Standard: P.EN.07.31 Identify examples of waves, including sound waves, seismic waves, and waves on water.</p> <p>P.EN.07.32 Describe how waves are produced by vibrations in matter.</p> <p>P.EN.07.33 Demonstrate how waves transfer energy when they interact with matter (for example: tuning fork in water, waves hitting a beach, earthquake knocking over buildings).</p>			
	<p>Unpacked Standard:</p> <p>P.EN.07.31 Students know that energy can travel in waves. Examples of waves are sound, seismic, and waves on water. Seismic waves are created when Earth's tectonic plates shift, causing a release of energy. There are different types of seismic waves, including P waves, S waves, and surface waves.</p> <p>P.EN.07.32 Students know that different substances or materials can vibrate, which causes waves to be produced. Those waves travel through different mediums, including air, water, and earth.</p> <p>P.EN.07.33 Students know that waves are energy created by the vibrations or movements that caused them. Just as other forms of energy can be transferred, so can the energy in waves.</p>			
	<p>Board Objective:</p> <p>I can define types of waves and describe examples of waves.</p> <p>I can describe how matter vibrates and causes waves.</p> <p>I can illustrate how waves cause a transfer of energy.</p>			
NEXT GEN CODE: N/A	Next Gen Standard: N/A			
	ACT Alignment: Sound and Light, Waves			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
<p>P.EN.07.31 Teacher guided demonstration of waves using bodies (create a chain of students, "act out" the types of waves). When finished, create a foldable or other diagram to show understanding of types of waves.</p> <p>P.EN.07.32 Students are given a variety of materials (string, balloons (that are not blown up), empty cans, metal objects, water, etc.) to design an experiment to show that waves are produced by vibrations in matter.</p> <p>P.EN.07.33 Students use dominoes to demonstrate understanding of energy transfer. They create a pattern and need</p>		<ul style="list-style-type: none"> Basic Concept: Sound Waves http://www.brainpop.com/educators/community/lesson-plan/sound-background-information-for-teachers-and-parents/ Seismic Waves: http://science.howstuffworks.com/nature/natural-disasters/earthquake4.htm Waves on Water: http://legacy.mos.org/oceans/motion/wind.html Waves: http://www.howstuffworks.com/waves-info.htm 		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations. Design and conduct scientific investigations.

to provide enough vibration at the start to transfer the energy all the way to the finish.		
RESOURCES:		VOCABULARY:
<ul style="list-style-type: none"> • Sound Waves Video: http://www.brainpop.com/educators/community/bp-jr-topic/sound/ • Seismic Waves Diagram: http://www.physicsinfo.co.uk/?page=view&id=1681 • Seismic Waves Converted to Sound: http://boingboing.net/2012/03/07/seismic-waves-from-tohoku-eart.html • Tuning Forks and Waves: http://www.physicsclassroom.com/mmedia/waves/tfl.cfm • 	WAVES, CREST, TROUGH, WAVELENGTH, TRANSVERSE, LONGITUDINAL, SOUND, TECTONIC PLATES, SEISMIC WAVES, EARTHQUAKE, BODY WAVES, P WAVE, S WAVE, SURFACE WAVE	
ESSENTIAL QUESTIONS:		EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
What are waves? What types of waves are there? How are waves formed? How do waves travel? What is the connection between waves and energy?		<ul style="list-style-type: none"> • SEISMIC WAVES WITH SLINKIES: http://IJUAN12.SQUIDOO.COM/EARTHQUAKE-LESSON-FOR-HOMESCHOOL • DANCING OOBLECK: http://WWW.HOUSINGAFOREST.COM/DANCING-OOBLECK/ • SOUND BASICS EXPERIMENTS: http://HOMESCHOOLJOURNAL-BERGBLOG.BLOGSPOT.COM/2012/03/MEDIUM-THROUGH-WHICH-SOUND-WAVES-TRAVEL.HTML • HOW VIBRATIONS CAUSE WAVES: http://PBSKIDS.ORG/ZOOM/ACTIVITIES/SCI/STEREOHANGER.HTML • WAVES AND VIBRATIONS DEMONSTRATIONS: http://WWW.PBSLEARNINGMEDIA.ORG/RESOURCE/PHY03.SCI.PHYS.HOWMOVE.LP_SOUND/SOUND-VIBRATIONS/

GRADE: 6		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: P.EN.M.6 SOLAR ENERGY EFFECTS	Standard: P.EN.07.61 Identify that nuclear reactions take place in the Sun, producing heat and light. P.EN.07.62 Explain how only a tiny fraction of light energy from the Sun is transformed to heat energy on Earth.			
	Unpacked Standard: P.EN.07.61 Students know that the Sun is a star. Stars contain hydrogen and other gases. The energy from stars comes from nuclear reactions that take place in the center of the star. The type of nuclear reaction is dependent on the age of the star. Our Sun has reactions that change hydrogen into helium, which causes heat and light. P.EN.07.62 Students know that although the nuclear reactions on the Sun create a large amount of energy, only a small amount reaches the earth. This amount is all we need to heat the earth.			
	Board Objective: I can explain the nuclear reactions that take place in the Sun. I can describe how nuclear reactions create heat and light. I can explain why only a small amount of the Sun's energy reaches earth.			
NEXT GEN CODE: N/A	Next Gen Standard: N/A			
	ACT Alignment: Stars, galaxies, and the universe			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
P.EN.07.61 and P.EN.07.62 Students write an autobiography of the Sun, focusing on the nuclear reactions that create heat and light on Earth and the amount of energy that reaches Earth.		<ul style="list-style-type: none"> Background Information: http://www.universetoday.com/75803/how-does-the-sun-produce-energy/ Basic Concept: http://www.space.com/14735-sun-heat-source-explained.html http://www.windows2universe.org/earth/climate/sun_radiation_at_earth.html 		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities. Evaluate scientific explanations based on current evidence and scientific principles.
RESOURCES:			VOCABULARY:	
<ul style="list-style-type: none"> The Sun: http://nineplanets.org/sol.html Bill Nye Video, the Sun: http://www.youtube.com/watch?v=kq-l65eEgjc How much energy reaches the earth: http://www.youtube.com/watch?v=c17t_Pf8vI4 			SUN, STAR, NUCLEAR REACTION, HYDROGEN, HELIUM, ENERGY	

ESSENTIAL QUESTIONS:	EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
How does the Sun produce heat and light? How much of the Sun's heat and light reach the Earth?	<ul style="list-style-type: none"> • NOVA SUN LAB DEMONSTRATIONS AND VIDEOS: HTTP://WWW.PBS.ORG/WGBH/NOVA/LABS/LAB/SUN/ • MAKE A SOLAR OVEN: HTTP://WWW.STEVESPANGLERSCIENCE.COM/LAB/EXPERIMENTS/SOLAR-OVEN

GRADE: 6	SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: L.OL.M.2 CELL FUNCTIONS	Standard: L.OL.07.21 Recognize that all organisms are composed of cells (single cell organisms, multicellular organisms). L.OL.07.22 Explain how cells make up different body tissues, organs, and organ systems. L.OL.07.23 Describe how cells in all multicellular organisms are specialized to take in nutrients, which they use to provide energy for the work that cells do and to make the materials that a cell or organism needs. L.OL.07.24 Recognize that cells function in a similar way in all organisms.		
	Unpacked Standard: L.OL.07.21 Students understand that cells are the most basic unit of life. Cells are made up of multiple parts, each carrying out a specific job. Parts to focus on in this standard are nucleus, chloroplasts, mitochondria, cell membrane, and cell wall (plant cell). Some organisms can function with just a single cell, while others need multiple cells to function. Students understand the difference between living and non-living things. Living things are made of cells that are healthy enough to carry out specific functions, non-living things are not. L.OL.07.22 Students understand that in multi-cellular organisms, cells make up tissue, tissue makes up organs, and organs make up organ systems in order for the organism to function. These systems work together to keep the organism alive. In the human body, there are many systems including circulatory, excretory, nervous, digestive, muscular, and respiratory. Students understand how these systems work together to ensure humans can carry out all necessary functions for life. L.OL.07.23 Students understand that there are parts of cells (mitochondria) that take in nutrients, and convert those nutrients into energy for the organism. The organism then uses that energy to do the work the organism needs to stay alive. L.OL.07.24 Students understand that there are two main types of cells: animal cells and plant cells. Each type of cell contains similar structures that carry out similar functions in their respective organisms.		
	Board Objective: I can define cells. I can explain the difference between living and non-living things in terms of cells. I can describe the function of the nucleus, chloroplasts, mitochondria, cell membrane, and cell wall (plant cell). I can relate cells to tissues, tissues to organs, and organs to systems. I can explain and demonstrate basic function of the circulatory, excretory, nervous, digestive, muscular, and respiratory systems. I can explain how mitochondria take in nutrients and break them down into energy for the cell. I can compare and contrast animal and plant cells.		
NEXT GEN CODE: MS-LS1-1. MS-LS1-2. MS-LS1-3.	Next Gen Standard: Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells. Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.		
	ACT Alignment: Body Systems, Cell Structure and Processes		

ASSESSMENTS:	CONCEPT NOTES:	LESSON STRATEGIES:
<p>L.O.L.07.21 Students create a superhero/villain themed poster to show the difference between single cell (villain) /multicellular (superhero) organisms</p> <p>Students use objects of their choice to create a model of a eukaryotic cell, focusing on the cell parts in the unpacked standard. To accompany their model, they include a table of the cell part, what its function is, and why they chose the material they did to represent it.</p> <p>L.O.L.07.22 Students create a song, poem, or other artistic representation to show understanding of the relationship between cells, tissues, organs, and organ systems.</p> <p>Students complete a foldable describing the relationship between cells, tissues, organs, and organ systems.</p> <p>L.O.L.07.23 Students create an ad “selling” the mitochondria to the cell. Included is a list of reasons why the mitochondria are important, what they do, and why the body needs them.</p> <p>L.O.L.07.24 Students complete a Venn diagram or chart explaining the differences and similarities between animal and plant cells.</p>	<ul style="list-style-type: none"> Single Celled Vs. Multicellular Organisms: http://bankofbiology.blogspot.com/2012/03/comparison-between-unicellular-and.html Basic Cell Information: http://www.ducksters.com/science/the_cell.php Prokaryotic vs. Eukaryotic: http://www.ck12.org/biology/Prokaryotic-and-Eukaryotic-Cells/lesson/Prokaryotic-and-Eukaryotic-Cells/ Body Systems: http://www.accuterm.com/life-sciences.html How cells take in nutrients: http://www.biology4kids.com/files/cell_mito.html Cellular respiration (creating energy): http://kidsresearchexpress-5.blogspot.com/2008/08/cellular-respiration.html Plant cells vs. Animal cells: http://www.diffen.com/difference/Animal_Cell_vs_Plant_Cell 	<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (microscopes) appropriate to scientific investigations. Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
RESOURCES:	VOCABULARY:	
<ul style="list-style-type: none"> Human Body Facts: http://www.kidskonnnect.com/subjectindex/31-educational/health/337-human-body.html Cells Bill Nye: 	CELL, ORGANELLE, SINGLE CELL, MULTICELLULAR, PROKARYOTIC, EUKARYOTIC, ORGANISM, NUCLEUS, CHLOROPLAST, CELL MEMBRANE, CELL WALL, MITOCHONDRIA, PLANT CELL, ANIMAL CELL, TISSUE, ORGAN, ORGAN SYSTEM, NUTRIENTS, ENERGY, LIVING, NON-LIVING.	

<p>http://www.youtube.com/watch?v=X6N82No4Nz8</p> <ul style="list-style-type: none"> • Cell Basics Video: http://www.youtube.com/watch?v=MfopLillOeA • Cell Activities: http://www.mensaforkids.org/lessons/cell/mfklessons-cell-all.pdf 	
ESSENTIAL QUESTIONS:	EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
<p>What is a cell? What are cells made of? What are organelles? What jobs do cells do? How do cells keep us alive? How do cells work together? How do tissues, organs, and organ systems work together? How are single celled and multicellular organisms the same and different? What is the difference between plant and animal cells?</p>	<ul style="list-style-type: none"> • USE A MICROSCOPE TO VIEW SLIDES OF DIFFERENT TYPES OF CELLS • CELLULAR RESPIRATION DEMO: HTTP://SCIENCE-MATTERSBLOG.BLOGSPOT.COM/2012/05/CELLULAR-RESPIRATION-IN-YEAST.HTML • 3D JELLO CELL MODEL: HTTP://HOWTOHOMESCHOOLMYCHILD.COM/SUMMER-FUN-HOW-TO-MAKE-A-3D-CELL-MODEL-WITH-JELLO/ • CELL/ORGANELLE MIX AND MATCH GAME: HTTP://WWW.TEACHERSPAYTEACHERS.COM/PRODUCT/CELL-ORGANELLES-MIX-MATCH-GAME-745738

GRADE: 6	SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: L.OL.M.3 GROWTH AND DEVELOPMENT	Standard: L.OL.07.31 Describe growth and development in terms of increase of cell number and/or cell size. L.OL.07.32 Examine how through cell division, cells can become specialized for specific functions.		
	Unpacked Standard: L.OL.07.31 Students understand that animals begin when two reproductive cells join together, creating a zygote (single cell). The zygote then divides through mitosis. The cell division keeps happening throughout our life as our cells need to be reproduced or replaced. L.OL.07.32 Students understand that in an organism, all cells begin with the same genetic material. This material contains instructions for what the cells in that organism need to be able to do. Some parts of the material are used, while others are not. This is how cells become specialized for different functions within the body.		
	Board Objective: I can explain how animals grow from being a single cell to having many cells through mitosis. I can describe the process of mitosis. I can explain how cells become specialized. I can illustrate different types of specialized cells.		
NEXT GEN CODE: MS-LS1-5.	Next Gen Standard: Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.		
	ACT Alignment: Body Systems, Cell Structure and Processes, Animal development and growth		
ASSESSMENTS:		CONCEPT NOTES:	LESSON STRATEGIES:
<p>L.OL.07.31 Students create a foldable showing the steps of mitosis starting with a zygote, and going through each step. The foldable contains a pictorial representation as well as written information about each step.</p> <p>L.OL.07.32 Teachers assign students to a specific type of specialized cell. Students write a story about the journey of a stem cell into their specialized cell. They explain how a stem cell uses instructions from genetic material to become a specialized cell. They also include what the cell is specialized to do.</p>		<ul style="list-style-type: none"> • Mitosis Basics: http://anthro.palomar.edu/biobasis/bio_2.htm • Cell division: http://www.ducksters.com/science/biology/cell_division.php http://www.learner.org/courses/essential/life/session3/closer1.html • How cells become specialized: https://adapaproject.org/bbk/tiki-index.php?page=Leaf%3A+How+does+a+generalized+cell+differ+to+become+a+specialized+cell%3F 	<ul style="list-style-type: none"> ▪ Generate scientific questions based on observations, investigations, and research. ▪ Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations. ▪ Design and conduct scientific investigations. ▪ Construct charts and graphs from data and observations. ▪ Identify patterns in data. ▪ Communicate and defend findings

		<p>of observations and investigations using evidence.</p> <ul style="list-style-type: none"> ▪ Draw conclusions from sets of data from multiple trials of a scientific investigation.
RESOURCES:		VOCABULARY:
<ul style="list-style-type: none"> • Stem Cell Article: https://student.societyforscience.org/article/stem-cells-secret-change • 		CELLS, MITOSIS, ZYGOTE, GENETIC MATERIAL, SPECIALIZED, GENERALIZED, STEM CELL
ESSENTIAL QUESTIONS:		EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
<p>How do organisms develop from a single cell? How do cells divide? What are the steps of mitosis? How do cells know what to do? How do stem cells become specialized for different functions?</p>		<ul style="list-style-type: none"> • GIVE EACH STUDENT A BAG WITH THE SAME MATERIALS (BLOCKS, PAPER, PAPER CLIPS, BINDER CLIPS, ETC), AND ASK THEM TO DESIGN SOMETHING (ANYTHING THEY WANT). TELL THEM THEY DO NOT HAVE TO USE ALL OF THE MATERIALS, BUT THEY MUST EXPLAIN WHAT THE THING THEY BUILT IS FOR AND HOW TO MAKE IT. SHOW HOW AT THE END OF THE TIME GIVEN, EACH STUDENT HAS SOMETHING A LITTLE BIT DIFFERENT. EXPLAIN HOW THIS IS LIKE THE GENETIC MATERIAL IN THE CELL BECOMING SPECIALIZED FOR A CERTAIN FUNCTION. EVEN THOUGH THE STARTING MATERIALS ARE THE SAME, THE OUTCOME IS DIFFERENT. • UTILIZE MICROSCOPES TO SHOW STUDENTS DIFFERENT TYPES OF SPECIALIZED CELLS.

GRADE: 6		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: L.HE.M.2 REPRODUCTION	Standard: L.HE.07.21 Compare how characteristics of living things are passed on through generations, both asexually and sexually. L.HE.07.22 Compare and contrast the advantages and disadvantages of sexual vs. asexual reproduction.			
	Unpacked Standard: L.HE.07.21 Students understand that sexual reproduction involves male (sperm) and female (egg) cells. When the cells meet, a zygote is formed; this divides through mitosis and eventually creates the cells that form body systems and hereditary characteristics. The male and female cells (gametes) hold the genetic information from each parent in the genetic material (DNA). That genetic material comes from each parent to determine the characteristics of the offspring. A prediction of characteristics can be determined through a Punnett Square. Some traits are recessive (occurring less often), while others are dominant (more likely to occur); examples of this can be seen in plants studied by Gregor Mendel. Students understand that asexual reproduction occurs when one organism reproduces on its own, creating an identical offspring. L.HE.07.22 Students understand that sexual reproduction offers genetic variation due to the many possible genotypes and phenotypes an offspring may have as a result of its parents. Genetic variation can be helpful in the survival of a species. Asexual reproduction does not offer genetic variation, since the offspring has is identical to the parent. Asexual reproduction can be advantageous in that two parents are not needed, and therefore it can occur much more quickly and easily.			
	Board Objective: I can explain the difference between sexual and asexual reproduction. I can illustrate how an offspring gets it's characteristics from both a mother and a father. I can predict traits based on the genes of the parents. I can summarize the advantages and disadvantages of sexual vs. asexual reproduction.			
NEXT GEN CODE: MS-LS3-2.	Next Gen Standard: Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.			
	ACT Alignment: Genetics, Animal development and growth			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
L.HE.07.21 Students create a flow chart showing how genetic material moves from parent to offspring. Students are given genotypes and phenotypes of parents, and use Punnett Squares to show possible geno- and phenotypes of offspring. Students are given genotypes and		<ul style="list-style-type: none"> Gene Basics: http://kidshealth.org/teen/your_body/health_basics/genes_genetic_disorders.html What is Heredity? http://www.cccoe.net/genetics/heredity.html Sexual and Asexual Reproduction: http://www.uen.org/core/science/sciber/sciber7/stand-4/numparent.shtml 		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Design and conduct scientific investigations. Communicate and defend findings of observations and investigations using evidence. Demonstrate scientific

<p>phenotypes of offspring, and use Punnett Squares to predict traits of the parents.</p> <p>Students use objects in the classroom to demonstrate how traits are passed.</p> <p>L.HE.07.22 Students choose a side and debate whether sexual or asexual reproduction is more beneficial for the survival of an organism.</p>		<p>concepts through various illustrations, performances, models, exhibits, and activities.</p>
<p>RESOURCES:</p>	<p>VOCABULARY:</p>	
<ul style="list-style-type: none"> Videos: http://www.neok12.com/Genetics.htm Brainpop Asexual Reproduction: http://www.brainpop.com/science/cellularlifeandgenetics/asexualreproduction/preview.weml Heredity Activities: http://www.teacherspayteachers.com/Product/HEREDITY-PUNNET-SQUARE-ACTIVITIES-1028122 Bill Nye Genes Video: http://www.youtube.com/watch?v=OZIQTMHmWmg Genes and DNA: http://www.youtube.com/watch?v=7CMHzVNNh1I 	<p>SPERM, EGG, GAMETE, OFFSPRING, ZYGOTE, DNA, MITOSIS, PUNNETT SQUARE, TRAIT/CHARACTERISTIC, GENOTYPE, PHENOTYPE, HETEROZYGOUS, HOMOZYGOUS, RECESSIVE, DOMINANT, GREGOR MENDEL, GENETICS, HEREDITY, ASEXUAL, SEXUAL</p>	
<p>ESSENTIAL QUESTIONS:</p>	<p>EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)</p>	

<p>What is sexual reproduction? What is asexual reproduction? What are the advantages and disadvantages of each? How are traits passed down from parents to children? How can traits be determined before the offspring is born? Why are do some traits appear more than others?</p>	<ul style="list-style-type: none">• GENETICS EXPERIMENTS AND ACTIVITIES: HTTP://WWW.CAL.ORG/CREATE/PDFS/GENETICS-LESSON-SET.PDF• SEXUAL VS ASEXUAL: HTTP://TEACH.GENETICS.UTAH.EDU/CONTENT/BEGIN/TRAITS/REPRODUCTIVESTRATEGIES.PDF• ASEXUAL PROPAGATION: HTTP://EDIBLESCHOOLYARD.ORG/NODE/3572• RECIPE FOR TRAITS ACTIVITY: HTTP://TEACH.GENETICS.UTAH.EDU/CONTENT/BEGIN/TRAITS/TRAITSRECIPE.PDF• PLASTIC EGG GENETICS: HTTP://WWW.MIDDLESCHOOLSCIENCE.COM/GENETICPLASTICEGGS.PDF• REEBOPS GENETICS ACTIVITY: HTTP://WWW.USC.EDU/ORG/COSEE-WEST/APRILLECTUREMATERIALS/ACTIVITIES/REEBOPS.PDF• GENETICS ACTIVITIES: HTTP://LEARN.GENETICS.UTAH.EDU/CONTENT/INHERITANCE/ACTIVITIES/
--	---

GRADE: 6		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: E.ES.M.1 SOLAR ENERGY	<p>Standard: E.ES.07.11 Demonstrate, using a model or drawing, the relationship between the warming by the sun of the Earth and the water cycle as it applies to the atmosphere (evaporation, water vapor, warm air rising, cooling, condensation, clouds).</p> <p>E.ES.07.12 Describe the relationship between the warming of the atmosphere of the Earth by the sun and convection within the atmosphere and oceans.</p> <p>E.ES.07.13 Describe how the warming of the Earth by the sun produces winds and ocean currents.</p>			
	<p>Unpacked Standard:</p> <p>E.ES.07.11 Students understand that the Sun warms the Earth. That warmth causes water in the atmosphere to evaporate to a vapor and rise, as the vapor rises and cools it condenses into clouds, which eventually will precipitate in some form, starting the water cycle over again.</p> <p>E.ES.07.12 Students understand that the Sun warms the Earth's atmosphere and oceans, which are the two largest sources of water on Earth. Convection, the transfer of heat by the movement of the heated material, is responsible for the redirection of heat from warmer areas to cooler areas. Meteorologists usually use "convection" to refer to up and down motions of air. Heat gained by the lowest layer of the atmosphere from radiation or conduction is most often transferred by convection.</p> <p>E.ES.07.13 The heating of the Earth's surface and atmosphere by the sun drives convection within the atmosphere and ocean, producing winds and ocean currents.</p>			
	<p>Board Objective:</p> <p>I can explain how the warming of Earth by the Sun causes water to cycle through the atmosphere.</p> <p>I can develop a model to show the water cycle in action.</p> <p>I can describe how the warming of Earth by the Sun relates to convection in the atmosphere and oceans.</p> <p>I can explain how winds and ocean currents are produced.</p>			
NEXT GEN CODE: MS-ESS2-4. MS-ESS2-6.	<p>Next Gen Standard:</p> <p>Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.</p>			
	<p>ACT Alignment: Earth's Atmosphere, Water Cycle, Weather and Climate</p>			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
<p>E.ES.07.11 Students create a working model showing evaporation, condensation, and precipitation. They write a scientific description of the model to show understanding of how the model demonstrates the standard.</p> <p>E.ES.07.12 Students create a poster or</p>		<ul style="list-style-type: none"> Ocean-Atmosphere System: http://www.tulane.edu/~sanelson/Natural_Disasters/oceanatmos.htm Convection Currents: https://www.ucar.edu/learn/1_1_2_7t.htm Weather and Climate Basics: http://oceanservice.noaa.gov/education/pd/oceans_weather_climate/weather_and_climate_basics.html 		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves,

<p>diagram showing the Sun warming the Earth's atmosphere and oceans and the role that convection plays.</p> <p>E.ES.07.13 Given a list of resources, students design an experiment to show how temperature can affect the movement of water, demonstrating understanding of ocean currents.</p>	<ul style="list-style-type: none">• Ocean Currents: http://oceanexplorer.noaa.gov/facts/currents.html• Sun, Wind, and Currents: http://scienceline.ucsb.edu/getkey.php?key=3521	<p>microscopes) appropriate to scientific investigations.</p> <ul style="list-style-type: none">▪ Design and conduct scientific investigations.▪ Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
RESOURCES:		VOCABULARY:
<ul style="list-style-type: none">• Educator's Guide to Convection: http://www.solarviews.com//eng/edu/convect.htm• Climate Education: https://www.nc-climate.ncsu.edu/edu/k12/.convection• Water Cycle Song: http://www.proteacher.org/a/12048_Water_Cycle_Song.html• Water Cycle Foldable: http://buzzingwithmsb.blogspot.com/2011/11/dont-look-up.html		EVAPORATION, WATER VAPOR, RISING, COOLING, CONDENSATION, CLOUDS, WATER CYCLE, ATMOSPHERE, CONVECTION, WINDS, OCEAN CURRENTS, FLUID
ESSENTIAL QUESTIONS:		EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
<p>How does the Sun cause changes in Earth's atmosphere? How does water in the atmosphere change due to heat? How do oceans become warm? What is convection? How does convection relate to oceans and the atmosphere? How are wind and ocean currents produced?</p>		<ul style="list-style-type: none">• CONVECTION CURRENTS/AIR AS A FLUID: HTTPS://WWW.UCAR.EDU/LEARN/1_1_2_7T.HTM• CONVECTION EXPERIMENT: HTTPS://SEALEVEL.JPL.NASA.GOV/FILES/ARCHIVE/ACTIVITIES/TS1ENAC3.PDF• WATER CYCLE DEMO: HTTP://SCIENCEPROJECTIDEASFORKIDS.COM/2009/WATER-CYCLE/•

GRADE: 6	SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: E.ES.M.7 WEATHER AND CLIMATE	Standard: E.ES.07.71 Compare and contrast the difference and relationship between climate and weather. E.ES.07.72 Describe how different weather occurs due to the constant motion of the atmosphere from the energy of the sun reaching the surface of the Earth. E.ES.07.73 Explain how the temperature of the oceans affects the different climates on Earth because water in the oceans holds a large amount of heat. E.ES.07.74 Describe weather conditions associated with frontal boundaries (cold, warm, stationary, and occluded) and the movement of major air masses and the jet stream across North America using a weather map.		
	Unpacked Standard: E.ES.07.71 Students understand that climate is a measure of weather patterns over time. Climate can also be spread out over a larger region, rather than describing one small area. Weather is a description of what the atmosphere's conditions are over a short period of time, including precipitation, wind, and temperature. The climate where a person lives controls the weather of that area. E.ES.07.72 Students understand that the Sun is one of the biggest determining factors of Earth's weather. The amount of sunlight determines the climate of a region. Students also understand that the atmosphere is a layer of gases that protects us from the Sun's rays. Those gases move constantly due to changes in temperature, and therefore changes in the density and buoyancy of the gases. E.ES.07.73 Students understand that oceans store heat from the Sun. Water in the oceans moves constantly in a circular pattern. In the Northern Hemisphere, water moves clockwise, and it moves counter-clockwise in the Southern Hemisphere. The warmth that is held in the oceans is circulated as the ocean waters rotate, affecting climate. E.ES.07.74 Students understand that a front is an area where two different air masses meet. The air masses will have differing densities, temperatures, and humidity levels. The different types of fronts (warm, cold, stationary, and occluded) cause different changes in the weather as they pass through.		
	Board Objective: I can explain the difference between weather and climate. I can describe how data and observations determine the weather and climate of a region. I can explain the role of the Sun in the Earth's weather. I can describe the composition and movement of the atmosphere. I can illustrate the movement of Earth's oceans. I can explain the role of the oceans in Earth's weather. I can compare and contrast types of weather fronts. I can predict weather based on data and information about weather fronts.		
NEXT GEN CODE: MS-ESS2-5. MS-ESS2-6.	Next Gen Standard: Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.		
	ACT Alignment: Weather and Climate		
ASSESSMENTS:		CONCEPT NOTES:	LESSON STRATEGIES:

<p>E.ES.07.71 Students are given a passage regarding weather and climate with all of the key comparing and contrasting words deleted. They will fill in the blanks with the correct terms.</p> <p>Students create a song or poem outlining the differences between weather and climate.</p> <p>E.ES.07.72 Students analyze historical weather data to complete a write-up of what the climate is in that area.</p> <p>Students are provided with climate information for a fictional area. They must develop a television news-style weather report that includes what the weather will be over the period of a week including information on how humans and animals must adapt.</p> <p>E.ES.07.73 Groups of students are assigned to specific oceans in the Northern and Southern Hemispheres. They will create a “travel guide” to show how the Sun’s rays warm the ocean and move in the correct direction to affect the climate of nearby land.</p> <p>E.ES.07.74 Students create a chart of each type of front, and fill in the information of what the weather may have been like before and after the front. They include descriptions of temperature, winds, cloud cover, and precipitation.</p> <p>Students watch a real weather forecast and deconstruct it to determine how the predictions were made.</p>	<ul style="list-style-type: none"> Weather vs. Climate: http://www.nasa.gov/mission_pages/noaa-n/climate/climate_weather.html Weather and Climate Basics: https://www2.ucar.edu/climate/faq/whats-difference-between-climate-and-weather Weather and Climate FAQ: http://www.explorit.org/science/weather.html Atmosphere Basics: http://www.universetoday.com/54760/what-is-the-atmosphere/ Atmospheric Circulation: http://www.sciencedaily.com/articles/a/atmospheric_circulation.htm Ocean, Weather and Climate: http://oceanservice.noaa.gov/education/pd/oceans_weather_climate/welcome.html Frontal Boundaries: http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/cld/dvlp/frnt.rxml Types of Fronts: http://www.physicalgeography.net/fundamentals/7r.html 	<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations. Design and conduct scientific investigations. Construct charts and graphs from data and observations. Identify patterns in data. Communicate and defend findings of observations and investigations using evidence. Draw conclusions from sets of data from multiple trials of a scientific investigation.
RESOURCES:	VOCABULARY:	

<ul style="list-style-type: none"> • Weather and Climate Study Jams Videos: http://www.scholastic.com/teachers/activity/weather-and-climate-13-studyjams-interactive-science-activities • Globe Program Resources on Weather and Climate: http://www.globe.gov/web/atmosphere-climate/overview • Weather Videos and Activities: https://sites.google.com/a/dexterschools.org/vhwteam/class-websites/7th-grade-science-units/weather-unit • How Stuff Works: Oceans and Climate: http://science.howstuffworks.com/how-the-ocean-affects-climate-info.htm • Bill Nye Climates Video: http://www.youtube.com/watch?v=SeB0DR40ZUE 	<p>WEATHER, CLIMATE, TEMPERATURE, HUMIDITY, BAROMETRIC PRESSURE, PRECIPITATION, WIND, CLOUD, ATMOSPHERE, CIRCULATION, JET STREAM, FRONT, FRONTAL BOUNDARY, WEATHER MAP, COLD, WARM, STATIONARY, OCCLUDED</p>
<p>ESSENTIAL QUESTIONS:</p> <p>What is the difference between weather and climate? How are they alike? How are weather and climate determined? How do the Sun's rays, the atmosphere, and the oceans affect weather and climate? What is the atmosphere? What is it made of? How does water in the oceans move? What are weather fronts? How are humidity, temperature, and barometric pressure related to weather and climate?</p>	<p>EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)</p> <ul style="list-style-type: none"> • WEATHER AND CLIMATE M & M ACTIVITY: HTTP://LITTLESHOP.PHYSICS.COLOSTATE.EDU/ACTIVITIES/ATMOS1/WEATHERCLIMATE.PDF • CLIMATE AND CURRENTS ACTIVITIES: HTTP://WWW.MSC.UCLA.EDU/OCEANGLOBE/PDF/CLIMATECURENTS/CURRENTSENTIRE.PDF • CREATING A CLIMOGRAPH: HTTP://WWW.ADOPTADRIFTER.NOAA.GOV/LESSONS/ADP_LESSONPLAN_CLIMOGRAPHS_COOK.PDF • SIMULATE A WEATHER FRONT: HTTP://WEATHER.ABOUT.COM/OD/UNDER10MINUTES/HT/FRONTDEMO.HTM •

GRADE: 6		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: E.ES.M.8 WATER CYCLE	<p>Standard: E.ES.07.81 Explain the water cycle and describe how evaporation, transpiration, condensation, cloud formation, precipitation, infiltration, surface runoff, ground water, and absorption occur within the cycle.</p> <p>E.ES.07.82 Analyze the flow of water between the components of a watershed, including surface features (lakes, streams, rivers, wetlands) and groundwater.</p>			
	<p>Unpacked Standard:</p> <p>E.ES.07.81 Students understand that water travels in a cycle, and that it goes through different phases that are dependent on temperature. After precipitation, water absorbs into the roots of plants, and also infiltrates the ground. That ground water then evaporates when the temperature rises. The water vapor then condenses as the air cools, forming clouds. Eventually, precipitation will occur again, and once again water will accumulate and create surface runoff. The cycle will continue on. Students also understand that the water cycle helps to purify water.</p> <p>E.ES.07.82 Students understand that a watershed is an area of land that collects precipitation, and includes all of the outlets for the water that is collected. If the ground is not already saturated with water, the some water will soak in (ground water). The rest of the water will flow to outlets depending on the topography of the land. Outlets can include rivers, streams, reservoirs, lakes, etc.</p>			
	<p>Board Objective:</p> <p>I can explain the steps of the water cycle.</p> <p>I can define the terms associated with the water cycle.</p> <p>I can create a model of the water cycle.</p> <p>I can describe the components of a watershed.</p> <p>I can model how water flows in a watershed.</p>			
NEXT GEN CODE: MS-ESS2-4.	Next Gen Standard: Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.			
	ACT Alignment: Groundwater, Lakes, Rivers, and Oceans, Water Cycle			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
<p>E.ES.07.81 Students will develop a working model of the water cycle.</p> <p>During a teacher demonstration of select parts of the water cycle, students will describe what is occurring and how, using correct vocabulary.</p> <p>E.ES.07.82 Students write a story from the perspective of a raindrop, explaining each step from precipitation through flowing out of the watershed into an</p>		<ul style="list-style-type: none"> Water Cycle Teacher Toolkit: http://pmm.nasa.gov/education/lesson-plans/water-cycle-speakers-toolkit Water Cycle Diagram: http://earthguide.ucsd.edu/earthguide/diagrams/watercycle/ How Watersheds Work: http://science.howstuffworks.com/environmental/conservation/issues/watershed.htm Watershed Information: http://water.usgs.gov/edu/watershed.html 		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations. Design and conduct scientific investigations.

ocean.		<ul style="list-style-type: none">Construct charts and graphs from data and observations.Identify patterns in data.Communicate and defend findings of observations and investigations using evidence.Draw conclusions from sets of data from multiple trials of a scientific investigation.
RESOURCES:		VOCABULARY:
<ul style="list-style-type: none">Water Cycle Song: http://www.proteacher.org/a/12048_Water_Cycle_Song.htmlWater Cycle Foldable: http://buzzingwithmsb.blogspot.com/2011/11/dont-look-up.htmlThirstin’s Water Cycle: http://www.epa.gov/safewater/kids/flash/flash_watercycle.htmlWater Cycle Study Jams: http://www.scholastic.com/teachers/activity/water-cycle-studyjams-activityMichigan’s Watersheds Map: https://engineering.purdue.edu/ABE/Engagement/lwm-mi-watersheds_202767_7.pdfWhich Watershed Do You Live In?: http://cfpub.epa.gov/surf/locate/index.cfmMichigan Watersheds and You: http://www.miwaterstewardship.org/residents/learnaboutourwater/michiganwatershedsandyou		WATER CYCLE, EVAPORATION, CONDENSATION, PRECIPITATION, TRANSPIRATION, CLOUD FORMATION, INFILTRATION, RUNOFF, GROUNDWATER, ABSORPTION, WATERSHED, AQUIFER, WATER TABLE
ESSENTIAL QUESTIONS:		EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
What is the water cycle? How does water change from one form to another? How are clouds formed? Why does precipitation occur? What is a watershed? Where does precipitation go? How does water flow from one place to another? How does water get to oceans?		<ul style="list-style-type: none">ENGINEERING ACTIVITY: MAKING A RAIN GAUGE: http://PMM.NASA.GOV/EDUCATION/LESSON-PLANS/RAIN-GAUGE-ACTIVITYDISAPPEARING WATER EVAPORATION ACTIVITY: http://WWW.EPA.GOV/REGION1/STUDENTS/PDFS/WW_DISAP.PDFWATER PURIFICATION: http://WATER.EPA.GOV/LEARN/KIDS/DRINKINGWATER/UPLOAD/2005_03_10_KIDS_A

	<p>CTIVITY_GRADES_4-8_WATERPURIFICATION.PDF</p> <ul style="list-style-type: none">• WILLY WETSWORTH ACTIVITY: HTTP://WWW.EPA.GOV/REGION1/STUDENTS/PDFS/WW_DRAIN.PDF• MAKING A WATERSHED MODEL: HTTP://WWW.ENVIRONMENTALSOCIETY.CA/MAIN/WP-CONTENT/UPLOADS/2012/08/WATERSHED-LESSON-PLAN1.PDF•
--	---

GRADE: 6	SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: E.FE.M.1 ATMOSPHERE	Standard: E.FE.07.11 Describe the atmosphere as a mixture of gases. E.FE.07.12 Compare and contrast the composition of the atmosphere at different elevations.		
	Unpacked Standard: E.FE.07.11 Students understand that the atmosphere surrounds the Earth and is a mixture of gases. The highest percentage is Nitrogen, followed by Oxygen. There are a very small percentage of other gases, water vapor, dust and other particles. The atmosphere is made up of five layers, all with their own distinct characteristics. The atmosphere is what allows us to breathe, and what keeps us from burning up from the Sun's rays. It also protects us from meteors and other debris from space. E.FE.07.12 Students understand that each layer of the atmosphere has specific features. Some layers are colder than others, while layers closer to the sun are hotter. The temperature, pressure, and amount of water vapor is different in each layer. Students also understand that the higher the elevation, the lower the atmospheric pressure. This is because at sea level, all of the gases in the higher layers of the atmosphere are pushing down. The higher you go, the less air there is pushing down. Our bodies can handle the pressure because there is also air pressure pushing out from our bodies. Air density also decreases the higher the elevation. Air density is how many molecules of air there are in a given volume. Lower air densities and pressure also equal lower temperature.		
	Board Objective: I can describe the atmosphere. I can model the layers of the atmosphere. I can compare and contrast the layers of the atmosphere. I can explain the changes in temperature and pressure in the layers of the atmosphere.		
NEXT GEN CODE: N/A	Next Gen Standard: N/A		
	ACT Alignment: Earth's Atmosphere		
ASSESSMENTS:		CONCEPT NOTES:	LESSON STRATEGIES:
E.FE.07.11 Students E.FE.07.12 Students		<ul style="list-style-type: none"> Atmosphere Basics: http://www.universetoday.com/54760/what-is-the-atmosphere/ Layers of the Atmosphere: http://www.srh.noaa.gov/jetstream/atmos/layers.htm What is the atmosphere made of? http://coolcosmos.ipac.caltech.edu/ask/64-What-is-the-atmosphere-of-Earth-made-of- What does the atmosphere do? http://www.scienceterrific.com/atmosphere_function.php The atmosphere in high elevations: http://www.scienceterrific.com/atmosphere_composition.php Atmospheric pressure: http://www.ck12.org/book/CK-12-Earth-Science-Concepts-For-High-School/section/9.3/ 	<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Construct charts and graphs from data and observations. Identify patterns in data. Communicate and defend findings of observations and investigations using evidence. Draw conclusions from sets of data from multiple trials of a scientific investigation.

	•	<ul style="list-style-type: none"> Communicate and defend findings of observations and investigations using evidence.
RESOURCES:		VOCABULARY:
<ul style="list-style-type: none"> Atmosphere Information: http://www.space.com/17683-earth-atmosphere.html Bill Nye Atmosphere: http://www.youtube.com/watch?v=45kf3oP0eGI Atmosphere Song: http://www.youtube.com/watch?v=dQPyNY2WIdw Layers of the Atmosphere Podcast: http://www.watchknowlearn.org/Video.aspx?VideoID=26860&CategoryID=2666 		ATMOSPHERE, TROPOSPHERE, STRATOSPHERE, MESOSPHERE, THERMOSPHERE, EXOSPHERE, GASES, NITROGEN, OXYGEN, ARGON, CARBON DIOXIDE, WATER VAPOR,
ESSENTIAL QUESTIONS:		EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
What is the atmosphere? What is it made of? What are the layers of the atmosphere? How do temperature and pressure change throughout the layers of the atmosphere?		<ul style="list-style-type: none"> LAYERS OF THE ATMOSPHERE ACTIVITY: HTTP://SCIENCE-MATTERSBLOG.BLOGSPOT.COM/2011/04/WEATHER-MOLECULES-IN-ATMOSPHERE.HTML TEACHER DEMONSTRATION OF AIR PRESSURE: HTTP://WWW.YOUTUBE.COM/WATCH?V=P8EEW-IWMJM ATMOSPHERE ACTIVITIES: HTTP://FORCES.SI.EDU/ATMOSPHERE/05_00_00.HTML MEASURING OXYGEN CONTENT OF AIR: HTTP://WWW.SCIENCEBUDDIES.ORG/SCIENCE-FAIR-PROJECTS/PROJECT_IDEAS/WEATHER_P004.SHTML?FROM=PINTEREST#SUMMARY

GRADE: 6		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: E.ES.M.4 HUMAN CONSEQUENCES	Standard: E.ES.07.42 Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere, (car exhaust, industrial emissions, acid rain, and natural sources), and how pollution impacts habitats, climatic change, threatens or endangers species.			
	Unpacked Standard: E.ES.07.42 Students understand that pollution is not a new problem. Throughout history, pollution has occurred in many forms for a variety of reasons. There is pollution to our air, water, and earth caused by multiple factors. This pollution can ruin habitats over time, impact food sources, and threaten or endanger the organisms that live in these environments. Some forms of pollution can also affect our climate, which in turn affects the entire Earth.			
	Board Objective: I can describe types of pollution. Given a time period, I can explain what types of pollution may have been present. I can analyze pollution sources and describe the affect they will have on organisms and the environment.			
NEXT GEN CODE: MS-ESS3-5.	Next Gen Standard: Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.			
	ACT Alignment: Populations, Earth's Resources			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
E.ES.07.42 Students will create a news report explaining the types of pollution and the effects of pollution for a given time period.		<ul style="list-style-type: none"> History of Pollution: http://oceanservice.noaa.gov/education/kits/pollution/02history.html Air Pollution: http://www.ducksters.com/science/environment/air_pollution.php 		<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations. Design and conduct scientific investigations. Construct charts and graphs from data and observations. Identify patterns in data. Communicate and defend

		<p>findings of observations and investigations using evidence.</p> <ul style="list-style-type: none"> • Draw conclusions from sets of data from multiple trials of a scientific investigation.
RESOURCES:		VOCABULARY:
<ul style="list-style-type: none"> • Green Glowing Fish Article: http://www.sciencedaily.com/releases/2012/04/120418095454.htm • Pollution Articles and Information: http://www2.vims.edu/bridge/search/bridge1output_menu.cfm?q=pollution • 		POLLUTION, ATMOSPHERE, GEOSPHERE, HYDROSPHERE, HABITAT, CLIMATE, ORGANISM
ESSENTIAL QUESTIONS:		EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
How does pollution occur? What types of pollution were there in the past? What types of pollution are there today? How does pollution affect habitats, climate, and organisms?		<ul style="list-style-type: none"> • ACID RAIN EXPERIMENT: HTTP://WWW.EDUCATION.COM/ACTIVITY/ARTICLE/WHATS_HAPPENED_THE_RAIN/?CID=50.200&UTM_SOURCE=ACTIVITY+OF+THE+WEEK+NEWSLETTER&UTM_CAMPAIGN=440A7FA998-ACTIVITY&UTM_MEDIUM=EMAIL • WATER POLLUTION CLEANUP SCIENCE/MATH CROSS CURRICULAR EXPERIMENT: HTTP://BEYONDTRADITIONMATH.WORDPRESS.COM/2014/04/21/EARTH-DAY-WATER-POLLUTION-ACTIVITY-A-CROSS-CURRICULAR-INQUIRY-STUDY/

GRADE: 6	SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE: L.EC.M.4 ENVIRONMENTAL IMPACT OF ORGANISMS	Standard: L.EC.o6.42 Predict possible consequences of overpopulation of organisms, including humans, (for example: species extinction, resource depletion, climate change, pollution).		
	Unpacked Standard: L.EC.o6.42 Overpopulation means that there are too many of a certain species in a given environment. Students understand that overpopulation can cause problems in an environment. The overpopulated species could cause issues including extinction for other species, depletion of resources faster than they can be restored, changes in climate, and pollution. Students not only understand that these are issues, but can begin to design solutions to these problems.		
	Board Objective: I can analyze evidence of problems caused by overpopulation. I can design solutions to the problems caused by overpopulation.		
NEXT GEN CODE: MS-ESS3-3. MS-ESS3-4.	Next Gen Standard: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.* Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.		
	ACT Alignment: Populations, Earth's Resources		
ASSESSMENTS:		CONCEPT NOTES:	LESSON STRATEGIES:
L.EC.o6.42 Students are given a case study of a problem caused by overpopulation. They use scientific methods to design a solution to the given problem, and create a visual aid, presentation, etc. outlining the solution and why they feel it will solve the problem.		<ul style="list-style-type: none"> Overpopulation Information: http://www.nationalgeographic.com/eye/overpopulation/effec t.html Pollution and overpopulation: http://www.npg.org/wp-content/uploads/2013/07/effects_of_overpopulation_waterair.pdf Articles: http://humaneeducation.org/blog/tag/overpopulation/ 	<ul style="list-style-type: none"> Generate scientific questions based on observations, investigations, and research. Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations. Design and conduct scientific investigations. Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.

RESOURCES:	VOCABULARY:
<ul style="list-style-type: none"> Teacher resources on overpopulation: http://www.worldof7billion.org/teacher_resources 	OVERPOPULATION, EXTINCTION, RESOURCES, DEPLETION, CLIMATE CHANGE, POLLUTION
ESSENTIAL QUESTIONS:	EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)
<p>How does overpopulation occur? What problems does overpopulation cause? What evidence is there to show that these problems exist?</p> <p>How can these problems be solved?</p>	<ul style="list-style-type: none"> LIST OF ACTIVITIES: HTTP://WWW.WORLDOF7BILLION.ORG/TEACHER_RESOURCES CNN NEWS ACTIVITY: HTTP://WWW.CNN.COM/2007/LIVING/STUDENTNEWS/10/01/PIP.OVERPOPULATION/INDEX.HTML

GRADE:		SUBJECT: Science		STRAND:		TRG Pacing Summary:	
CODE:		Standard:					
		Unpacked Standard:					
		Board Objective:					
NEXT GEN CODE:		Next Gen Standard:					
		ACT Alignment:					
ASSESSMENTS:				CONCEPT NOTES:			LESSON STRATEGIES:
RESOURCES:					VOCABULARY:		
ESSENTIAL QUESTIONS:					EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)		

GRADE:		SUBJECT: Science		STRAND:		TRG Pacing Summary:	
CODE:		Standard:					
		Unpacked Standard:					
		Board Objective:					
NEXT GEN CODE:		Next Gen Standard:					
		ACT Alignment:					
ASSESSMENTS:			CONCEPT NOTES:			LESSON STRATEGIES:	
RESOURCES:				VOCABULARY:			
ESSENTIAL QUESTIONS:				EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)			

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science		STRAND:		TRG Pacing Summary:	
CODE:		Standard:					
		Unpacked Standard:					
		Board Objective:					
NEXT GEN CODE:		Next Gen Standard:					
		ACT Alignment:					
ASSESSMENTS:			CONCEPT NOTES:			LESSON STRATEGIES:	
RESOURCES:				VOCABULARY:			
ESSENTIAL QUESTIONS:				EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)			

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	

ESSENTIAL QUESTIONS:	EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)

GRADE:	SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:		
	Unpacked Standard:		
	Board Objective:		
NEXT GEN CODE:	Next Gen Standard:		
	ACT Alignment:		
ASSESSMENTS:		CONCEPT NOTES:	LESSON STRATEGIES:
RESOURCES:		VOCABULARY:	
ESSENTIAL QUESTIONS:		EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:			
	Unpacked Standard:			
	Board Objective:			
NEXT GEN CODE:	Next Gen Standard:			
	ACT Alignment:			
ASSESSMENTS:		CONCEPT NOTES:		LESSON STRATEGIES:
RESOURCES:			VOCABULARY:	
ESSENTIAL QUESTIONS:			EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:	SUBJECT: Science	STRAND:	TRG Pacing Summary:
CODE:	Standard:		
	Unpacked Standard:		
	Board Objective:		
NEXT GEN CODE:	Next Gen Standard:		
	ACT Alignment:		
ASSESSMENTS:		CONCEPT NOTES:	LESSON STRATEGIES:
RESOURCES:		VOCABULARY:	
ESSENTIAL QUESTIONS:		EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)	

GRADE:		SUBJECT: Science		STRAND:		TRG Pacing Summary:	
CODE:	Standard:						
	Unpacked Standard:						
	Board Objective:						
NEXT GEN CODE:	Next Gen Standard:						
	ACT Alignment:						
ASSESSMENTS:			CONCEPT NOTES:			LESSON STRATEGIES:	
RESOURCES:				VOCABULARY:			
ESSENTIAL QUESTIONS:				EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)			
GRADE:		SUBJECT: Science		STRAND:		TRG Pacing Summary:	
CODE:	Standard:						
	Unpacked Standard:						
	Board Objective:						
ASSESSMENTS:			LEARNING OUTCOMES:			STRATEGIES	
RESOURCES:				VOCABULARY:			
ESSENTIAL QUESTIONS:				EXPERIMENT/NEXT GENERATION SCIENCE STANDARD:			

GRADE:		SUBJECT: Science		STRAND:		TRG Pacing Summary:	
CODE:	Standard:						
	Unpacked Standard:						
	Board Objective:						
NEXT GEN CODE:	Next Gen Standard:						
	ACT Alignment:						
ASSESSMENTS:			CONCEPT NOTES:			LESSON STRATEGIES:	
RESOURCES:				VOCABULARY:			
ESSENTIAL QUESTIONS:				EXPERIMENT/DEMONSTRATION/ACTIVITY: (SCIENCE PROCESSES/ENG. DESIGN)			
GRADE:		SUBJECT: Science		STRAND:		TRG Pacing Summary:	
CODE:	Standard:						
	Unpacked Standard:						
	Board Objective:						
ASSESSMENTS:			LEARNING OUTCOMES:			STRATEGIES	
RESOURCES:				VOCABULARY:			
ESSENTIAL QUESTIONS:				EXPERIMENT/NEXT GENERATION SCIENCE STANDARD:			